

Penicillinase-producing gonococci in the Netherlands

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Probably most penicillinase-producing strains of *Neisseria gonorrhoeae* (PPNG) isolated in the Netherlands are sent to the Laboratory for Chemotherapy of the Rijks Instituut voor de Volksgezondheid (RIV). The co-operation between the RIV and the Office of the Chief Medical Officer of Health (CMOH) has resulted in a quarterly review of the PPNG strains isolated by the RIV Laboratory for Chemotherapy being sent to the Division of Infectious Diseases of the CMOH. The Division of Infectious Diseases then tries to obtain missing epidemiological data from those who have sent the PPNG strains to the RIV.

The source of infection of the first Dutch case, as described by Stolz,¹ appeared to be a stewardess, who contracted the disease in the Philippines. Since the first two cases in the Netherlands were reported in 1976, the number of cases with infections due to β -lactamase-producing *N gonorrhoeae* increased rapidly (table). In 1979 the number of cases (273) more than quintupled in comparison with that in 1978 (52 cases).

In 1978, PPNG strains were found in four (8%) female patients. The proportion of female cases increased to 25% (67 cases) in 1979.

The proportion of Dutch cases in 1977 was 18% compared with 62% and 45% in 1978 and 1979 respectively.

In the Netherlands, the proportion of these infections contracted outside the country is becoming lower (1976-77, 85%; 1978, 20%; and 1979, 11%) indicating that these strains have become endemic.

Many patients infected in the Netherlands contracted the disease in Amsterdam (1978, 54%; 1979, 58%). The Hague follows with 13% in 1978 and 17% in 1979.

Contact tracing was often unsuccessful; many male patients were infected by prostitutes who were untraceable afterwards.

From the results of a survey carried out by Mr B van Klingerden (Laboratory for Chemotherapy of the RIV), among a number of regional public health laboratories, it is estimated that PPNG strains constitute about 2-3% of all circulating gonococcal strains in the country.

β -lactamase-producing gonococci contain a plasmid which codes for β -lactamase production, such as the "Asian" 4.5 Md and the "African" 3.3 Md plasmids. Van Klingerden *et al*² have found that virtually all of the PPNG isolates in 1978 in the Netherlands were found to carry the Asian plasmid. It seems, according to van Klingerden, that this plasmid survives more successfully than the African plasmid.

References

1. Stolz E. Penicillinasevormende gonokokkenstam geïsoleerd in Rotterdam. *Ned T Geneesk* 1977;121:620.
2. Klingerden B van, Embden JDA van, Wijngaarden LJ van. Surveillance of penicillinase-producing gonococci in the Netherlands. *Proceedings of the 11th International Congress of Chemotherapy*, 1-5 October 1979, Boston, Mass., 1980.

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TABLE Number of infections with β -lactamase-producing *N gonorrhoeae* by sex (Dutch and foreigners) between 1976 and 1979.

Year	Dutch			Foreigners			Total		
	M	F	Total	M	F	Total	M	F	Total
1976	1	1	2				1	1	2
1977	1	1	2	9		9	10	1	11
1978	29	3	32	19	1	20	48	4	52
1979	76	48	124	130	19	149	206	67	273